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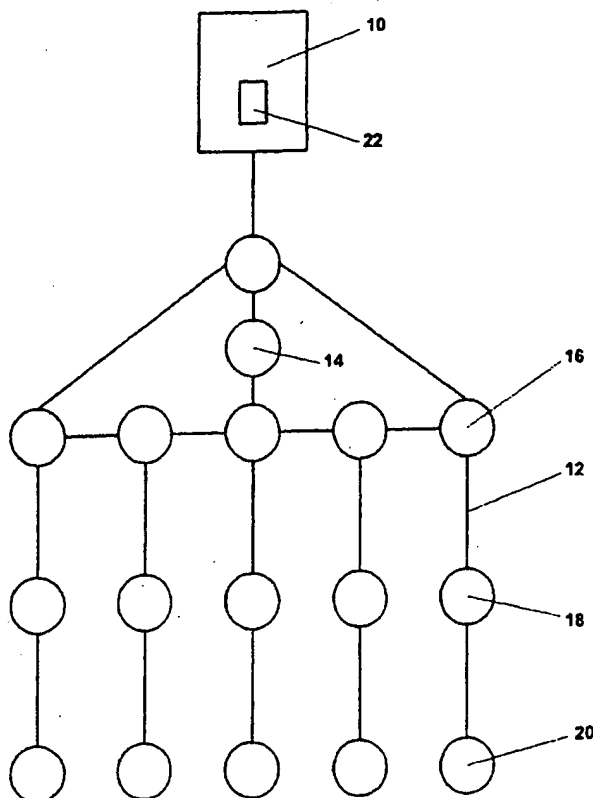
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(54) Title: **ACTIVE SEPARATION TRACKING AND POSITIONING SYSTEM FOR TOWED SEISMIC ARRAYS**



(57) Abstract: A method and apparatus comprising an active control system for a towed seismic streamer array that enables any relative positional control of any number of towed seismic streamers. The streamer positions are controlled horizontally and vertically using active control units positioned within the seismic array. The three component (x,y,z) position of each streamer element, relative to the vessel and relative to each other is controlled, tracked and stored during a seismic data acquisition run. The active control elements can be located at diverter position, streamer head, along the length of the streamer or on the tail of the streamer. The apparatus and method of the present invention enables a seismic array to be maneuvered as the towing vessel maintains course or the vessel itself maneuvers to assist in the repositioning of the array. The system enables maintenance of specific array position and geometry in the presence of variable environmental factors. The present invention facilitates four-dimensional seismic data acquisition by sensing and storing the position of the array and each array element with respect to time. Ancillary configurations such as collapsing an array or one section one streamer of an array for maintenance, handling or retrieval are enabled.

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